Table 1.2 Renewable Energy Consumption by Energy Use Sector and Energy Source, 2004 - 2008
(Quadrillion Btu)

Sector and Source	2004	2005	2006	2007	2008
Total	6.247	6.407	6.825	6.719	7.367
Biomass	3.010	3.117	3.277	3.503	3.852
Biofuels	0.500	0.577	0.771	0.991	1.372
Biodiesel[1]	0.003	0.012	0.033	0.046	0.040
Ethanol[2]	0.293	0.335	0.453	0.569	0.800
Losses and Coproducts	0.203	0.230	0.285	0.377	0.532
Biodiesel Feedstock[3]	*	*	*	0.001	0.001
Ethanol Feedstock[4]	0.203	0.230	0.285	0.376	0.531
Waste	0.389	0.403	0.397	0.413	0.436
Landfill Gas	0.144	0.148	0.157	0.173	0.187
MSW Biogenic[5]	0.164	0.168	0.171	0.165	0.169
Other Biomass[6]	0.081	0.088	0.069	0.075	0.079
Wood and Derived Fuels[7]	2.121	2.136	2.109	2.098	2.044
Geothermal	0.341	0.343	0.343	0.349	0.360
Hydroelectric Conventional	2.690	2.703	2.869	2.446	2.512
Solar Thermal/PV	0.065	0.066	0.072	0.081	0.097
Wind	0.142	0.178	0.264	0.341	0.546
Residential	0.483	0.507	0.475	0.527	0.565
Biomass	0.410	0.430	0.390	0.430	0.450
Wood and Derived Fuels[8]	0.410	0.430	0.390	0.430	0.450
Geothermal	0.014	0.016	0.018	0.022	0.026
Solar Thermal/PV[9]	0.059	0.061	0.067	0.075	0.088
Commercial	0.118	0.119	0.117	0.118	0.125
Biomass	0.105	0.105	0.102	0.102	0.109
Biofuels	0.001	0.001	0.001	0.002	0.002
Ethanol[2]	0.001	0.001	0.001	0.002	0.002
Waste	0.034	0.034	0.036	0.031	0.034
Landfill Gas	0.002	0.003	0.004	0.003	0.003
MSW Biogenic[5]	0.025	0.025	0.026	0.021	0.026
Other Biomass[6]	0.007	0.007	0.007	0.007	0.005
Wood and Derived Fuels[7]	0.070	0.070	0.065	0.069	0.073
Geothermal	0.012	0.014	0.014	0.014	0.015
Hydroelectric Conventional	0.001	0.001	0.001	0.001	0.001
Solar Thermal/PV	-	-	-	-	*
Industrial	1.853	1.873	1.930	1.964	2.053
Biomass	1.817	1.837	1.897	1.944	2.031
Biofuels	0.209	0.237	0.295	0.387	0.544
Ethanol[2]	0.006	0.007	0.010	0.010	0.012
Losses and Coproducts	0.203	0.230	0.285	0.377	0.532
Biodiesel Feedstock[3]	*	*	*	0.001	0.001
Ethanol Feedstock[4]	0.203	0.230	0.285	0.376	0.531
Waste	0.132	0.148	0.130	0.144	0.144
Landfill Gas	0.076	0.081	0.081	0.093	0.093
MSW Biogenic[5]	0.006	0.007	0.006	0.006	0.003
Other Biomass[6]	0.050	0.061	0.043	0.046	0.048
Wood and Derived Fuels[7]	1.476	1.452	1.472	1.413	1.344
Geothermal	0.004	0.004	0.004	0.005	0.005
Hydroelectric Conventional	0.033	0.032	0.029	0.016	0.017
Solar Thermal/PV	-	-	-	-	-
Wind	-	-	-	-	-
Transportation	0.290	0.339	0.475	0.603	0.827
Biomass	0.290	0.339	0.475	0.603	0.827
Biofuels	0.290	0.339	0.475	0.603	0.827
Biodiesel[1]	0.003	0.012	0.033	0.046	0.040
Ethanol[2]	0.286	0.328	0.442	0.557	0.786
Electric Power[10]	3.503	3.568	3.827	3.508	3.798
Biomass	0.388	0.406	0.412	0.423	0.435
Waste	0.223	0.221	0.231	0.237	0.258
Landfill Gas	0.066	0.065	0.073	0.077	0.092
MSW Biogenic[5]	0.133	0.136	0.139	0.138	0.141
Other Biomass[6]	0.023	0.020	0.019	0.022	0.026
Wood and Derived Fuels[7]	0.165	0.185	0.182	0.186	0.177
Geothermal	0.311	0.309	0.306	0.308	0.314
Hydroelectric Conventional	2.656	2.670	2.839	2.430	2.495
Solar Thermal/PV	0.006	0.006	0.005	0.006	0.009
Wind	0.142	0.178	0.264	0.341	0.546

[1]Biodiesel primarily derived from soybean oil.

Table 1.2 Renewable Energy Consumption by Energy Use Sector and Energy Source, 2004 - 2008 (Quadrillion Btu) (Continued)

Sector and Source	2004	2005	2006	2007	2008

[2]Ethanol primarily derived from corn minus denaturant.
[3]Losses and coproducts from the production of biodiesel. Does not include natural gas, electricity, and other nonbiomass energy used in the production of biodiesel.
[4]Losses and coproducts from the production of ethanol. Does not include natural gas, electricity, and other non-biomass energy used in the production of ethanol.
[5]Includes paper and paper board, wood, food, leather, textiles and yard trimmings.
[6]Agriculture byproducts/crops, sludge waste, and other biomass solids, liquids and gases.
[7]Black liquor, and wood/wood waste solids and liquids.
[8]Wood and wood pellet fuels.
[9]Includes small amounts of distributed solar thermal and photovoltaic energy used in the commercial, industrial and electric power sectors.
[10]The electric power sector comprises electricity-only and combined-heat-power (CHP) plants within North American Classification System (NAICS) 22 category whose primary business is to sell electricity, or electricity and heat, to the public.
MSW = Municipal Solid Waste.
PV = Photovoltaic.
* = Less than 500 billion Btu.
- = No data reported.
Notes: Totals may not equal sum of components due to independent rounding.
Data revisions are discussed in the Highlights section.
Revisions to biomass removed MSW non-biogenic and tires from renewable waste energy.
Energy consumption for the noncombustible renewable energy sources (hydroelectric conventional, solar thermal, PV and wind) used in electricity generation is determined by mulitiplying generation times the fossil fuel equivalent heat rate.
Energy consumption for geothermal energy used in electricity generation is determined by mulitiplying generation times the geothermal heat rate. See EIA, Annual Energy Review (AER) 2008, DOE/EIA-0384 (2008) (Washington, DC, June 2009), Table A6.
Sources: Analysis conducted by U.S. Energy Information Administration, Office of Coal, Nuclear, Electric and Alternate Fuels and specific sources described as follows. Residential: U.S. Energy Information Administration, Form EIA-457A/G, "Residential Energy Consumption Survey;" Oregon Institute of Technology, Geo-Heat Center; and U.S. Energy Information Administration, Form EIA-63-A, "Annual Solar Thermal Collector Manufacturers Survey" and Form EIA-63B, "Annual Photovoltaic Module/Cell Manufacturers Survey." Commercial: U.S. Energy Information Administration, Form EIA-906, "Power Plant Report," Form EIA-920, "Combined Heat and Power Plant Report," and Form EIA-923, "Power Plant Operations Report;" and Oregon Institute of Technology, Geo-Heat Center. Industrial: U.S. Energy Information Administration, Form EIA-846 (A, B, C) "Manufacturing Energy Consumption Survey," Form EIA-906, "Power Plant Report," Form EIA-920, "Combined Heat and Power Plant Report," and Form EIA-923, "Power Plant Operations Report;" and Oregon Institute of Technology, Geo-Heat Center; Government Advisory Associates, Resource Recovery Yearbook and Methane Recovery Yearbook;
U.S. Environmental Protection Agency, Landfill Methane Outreach Program estimates; and losses and coproducts from the production of biodiesel calculated as the difference between energy in feedstocks and production and from the production of ethanol calculated as the difference between energy in feedstocks and production less denaturants. Biofuels for Transportation: Biodiesel: Consumption: 2001-2008 Calculated as biodiesel production plus net imports; Production: 2001-2005: U.S. Department of Agriculture (USDA), Commodity Credit Corporation, Bioenergy Program, 2006: U.S. Department of Commerce, Bureau of Census, Current Industrial Reports, Fats and Oils - Production, Consumption and Stocks, data for soybean oil in methyl esters (biodiesel), 2007: U.S. Department of Commerce, Bureau of Census, Current Industrial Reports, Fats and Oils - Production, Consumption and Stocks, data for fats and oils in methyl esters, and 2008: U.S. Energy Information Administration, Form EIA-22S, "Supplement to the Monthly Biodiesel Production Survey;" Trade: USDA imports data for Harmonized Tariff Schedule code 3824.90.40.20 (Fatty Esters Animal/ Vegetable Mixture) and exports data for Schedule B code 3824.90.40.00 (Fatty Substances Animal/ Vegetable Mixture, and Ethanol: 2001-2004: EIA, Petroleum Supply Annual, Tables 2 and 16. Calculated as ten percent of oxygenated finished motor gasoline field production (Table 2) plus fuel ethanol refinery input (Table 16). 2005-2008: EIA Petroleum Supply Annual (Various Issues), Tables 1 and 15. Calculated as motor gasoline blending components adustments (Table 1), plus finished motor gasoline adjustments (Table 1), plus fuel ethanol refinery and blender net inputs (Table 15). Small amounts of ethanol consumption are distributed to the commercial and industrial sectors according to those sector`s shares of U.S. motor gasoline supplied. Electric Power: U.S. Energy Information Administration, Form EIA-906, "Power Plant Report," Form EIA-920, "Combined Heat and Power Plant Report," and Form EIA-923, "Power Plant Operations Report."